

III.—Some Crustacea of Natal,

by the

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WITH PLATES I-V.

THE numerous specimens of Crustacea accumulated in the Durban Museum by members of the staff, with the assiduous help of Mr. Bell Marley, would have been more methodically treated by dealing thoroughly first with one tribe and then with another. But various conditions of the work, and the worker, have brought about the offering, such as it is, of occasional notes rather than a formal treatise. Of the twelve species discussed in the present contribution only three claim to be new.

TRIBE OXYRRHYNCHA.

FAMILY ACANTHONYCHIDÆ.

GENUS DEHAANIUS, McLeay.

See these Annals, vol. ii, pt. 2, p. 49; 1918.

DEHAANIUS MACLEAII (Krauss).

1843. *Acanthonyx macleaii*, Krauss, Die südafrik. Crust., p. 47, pl. 3, fig. 6.
1900. *Dehanius macleayii*, Stebbing, Gilchrist's Marine Invest., vol. 1, p. 20.
1900. *D. macleaii*, Stebbing, Ann. S. Afr. Mus., vol. vi, pt. 4, p. 288.

In 1900 I suggested the probability that this species might be synonymous with *Dehanius dentatus* (Milne Edwards) and with *D. quadridentatus* (Krauss). The latter form and the present have both been sent me by Mr. H. W. Bell Marley from pools at Isipingo, Natal. But while there are no intermediate forms, it would be rash to unite them. The specimen agreeing with *D. macleaii* (Krauss) is 6 mm,

long in the median line of the carapace and all but 5 mm. wide between the small postero-lateral teeth. The male specimen described by Krauss was 7 lines long by 4.5 lines broad, therefore very much larger than ours, yet exactly agreeing in shape. The colour, after long preservation in spirit, is red, with a small pale patch between the hindmost teeth. The legs are also red, with white fingers.

TRIBE CYCLOMETOPA.

FAMILY PORTUNIDÆ.

GENUS LUPA, Leach, 1813.

See Ann. S. Afr. Mus., vol. vi, p. 307; 1910.

LUPA PUBESCENS, Dana.

1852. *Lupa pubescens*, Dana, U.S. Expl. Exp., vol. xiii, p. 274, pl. 16, figs. 9a-c, p, p', p''.

A specimen from from Durban bay, collected by Mr. H. W. Bell Marley, has the carapace measuring 23 mm. between the tips of the hindmost lateral teeth, with a length of 13 mm, the shape agreeing well with Dana's figure, except that the ninth antero-lateral tooth is slightly less pronounced, and the four equal frontal teeth are more rounded than he represents. Label 143.

FAMILY XANTHIDÆ.

GENUS XANTHO, Leach, 1815.

XANTHO IMPRESSUS (Lamarck). Plate I.

1818. *Cancer impressus*, Lamarck, H. N. Anim. sans vert., vol. v, p. 272.
1898. *Xantho impressus*, Alcock, J. Asiat. Soc. Bengal, vol. lxxvii, pp. 113, 115.

Alcock, from whom I borrow the first reference, supplies the synonymy down to 1898. Dr. de Man, in 1887, notices a young male specimen as "this very rare species," and gives the measurement of the carapace as 38 mm. broad, 22 mm. long. In our female specimen the measurement is 27 by 16 mm. The surface of the carapace is very much pitted and the sternum still more conspicuously. The pleon attracted attention by two large but unequal tubercles on the last segment. Their unsymmetrical position, however, makes it probable that they are an accidental malformation. The terminal margin, obscured by the tubercles, appears to be trifid, and all the other segments of the pleon are trilobed. The mouth-organs are normal, mandibles strong, first and second maxillipeds weak, especially in comparison with the third pair, in which the third and fourth joints of the endopod and the main joint of the exopod are broad and hard. The chelipeds as preserved are white, and though minutely pitted might be described as smooth; the confronting edges of the fingers are denticulate. The ambulatory limbs have "both edges of the dactylopodites covered with thick short fur," as described by Alcock for the male. The sharp tips are horn-coloured.

Locality. The specimen was taken by Mr. A. L. Bevis at Umkomaas.

TRIBE CATOMETOPA.

In her very important and comprehensive treatise (U.S. Nat. Mus., Bulletin 97, 1918), Miss Rathbun adopts Borradaile's well-known classification, published in 1907, and in introducing "The Grapsoid or Catometopous crabs of America" remarks that "The term Catometopa or 'square-fronted' was early applied to a group of crabs which was contrasted with the Cyclometopa or 'round-fronted' crabs. These terms were abandoned because the one group was found to merge gradually into the other. The name *Brachyhyncha* was given to the whole." Further, Miss Rathbun observes that "the so-called Catometopa contain many types that are not 'square-fronted.'" It should, however, be noted that Catometopa does not mean 'square-fronted' but 'down-fronted,' in reference to the bending down of the inter-orbital front. One may reflect that, accepting the principle of evolution, groups will be found obstinately merging one into the other, however you change the names in classification.

FAMILY GONOPLACIDÆ.

In the above-cited treatise Miss Rathbun observes that "the family Gonoplacidae links the Catometopes to the Cyclometopes and is most closely allied to the family Xanthidae."

GENUS EURYPLAX, Stimpson.

1859. *Euryplax*, Stimpson, Ann. Lyc. Nat. Hist. New York, vol. vii, p. 60 [Rathbun].
1900. *E.*, C. G. Young, West Indian Stalk-eyed Crustacea, p. 256.
1918. *E.*, Rathbun, The Grapsoid Crabs of America, p. 34.

Carapace broad, transverse, hexagonal, antero-lateral margins short [very short, Stimpson], dentate, front nearly half as broad as the carapace; ocular peduncles of moderate length; chelipeds heavy, not very unequal; all segments of pleon distinct, first narrow and little developed, second widest.

Some points mentioned by Stimpson are omitted as not distinctly observed in the following species.

EURYPLAX BEVISI, sp. nov. Plate II.

From the two species earlier known this is easily distinguished by several characters. The antero-lateral margins have four strong teeth instead of only three, the carapace broadest at the hindmost, with its surface diversified by numerous rows of minute spinules or setules. The strong chelipeds are strikingly furnished with conspicuous rows of granules and projecting spines or teeth. Of teeth there are three on the inner margin of the fourth joint, the fifth has a large one near its inner margin, and two small ones on the outer border; the hand has two that are lateral. All are conspicuous by their dark tips. The outer border of the strongly curved finger is smooth but trilobed.

The cutting-plate of the mandible is oval; on the inner-side it has a sharp oblique ridge. In the robust contiguous third maxillipeds the fourth joint is much shorter than the third has its antero-internal angle deeply incised for the fifth joint. The peculiarities of the slight maxillæ and second maxillipeds may be judged from the figures, but the other species have not offered material for comparison. The first antennæ fold transversely. The fingers of the chelæ have dark patches

not quite reaching the tips. The telson is acutely triangular, longer than its breadth at the base. Greatest breadth of carapace 23 mm., median length 17 mm.

Locality. Umkomaas, Natal, where the specimen was obtained by Mr. A. L. Bevis, in regard to whom the species is named.

FAMILY SESARMIDÆ.

GENUS PARASESARMA, de Man, 1895.

See Ann. Durban Mus., vol. ii, pt. i, p. 10, 1917, and add *Sesarma*. Rathbun, U.S. Nat. Mus., Bull. 97, p. 284; 1918.

PARASESARMA CATENATUS (Ortmann). Plate III.

1905. *Sesarma catenatum*, Stebbing, Marine Invest. S. Afr., vol. iv, pt. 3, p. 44.

1917. *Parasesarma catenatus*, Stebbing, Ann. Durban Mus., vol. ii, pt. i, p. 10.

The figure of the cheliped which Ortmann gives in 1897 inclined me to regard the Durban specimens as a distinct species, but a renewed consideration of his description, which I have already quoted and discussed in 1905, confirms the opinion there adopted. In a specimen from Delagoa Bay, obtained by Mr. K. H. Barnard, the felting is extended to all the ambulatory limbs and prolonged on to the dactyls. The specimen from which the figures are drawn was procured by Mr. D. R. Boyce in Durban Bay.

FAMILY OCYPODIDÆ.

GENUS UCA, Leach, 1814.

See these Annals, vol. ii, pt. i, p. 14; 1917.

UCA NITIDUS (Dana).

1851. *Gelasimus nitidus*, Dana, Ac. Sci. Philad., p. 248 (Conspectus, p. 2).

1852. *G. n.*, Dana, U.S. Expl. Exp., vol. xiii, p. 316 (1855, pl. 19, figs. 5a-d).
1852. *G. n.*, Milne Edwards, Ann. Sci. Nat., ser. 3, vol. xviii, p. 147.
1852. *G. vocans*, Milne Edwards, Ann. Sci. Nat., vol. xviii, p. 145, pl. 3, figs. 4, 4a, 4b.
1891. *G. v.*, de Man, Notes Leyden Mus., vol. xiii, pp. 20, 23, pl. 2, fig. 5.
1900. *G. marionis*, var. *nitidus*, Alcock, J. Asiat. Soc. Bengal, vol. lxix, pp. 356, 360.

It is to this form that I made a passing allusion when discussing *Uca arcuatus* (de Haan) in 1917. While *Uca marionis* (Desmarest), 1823, or *Uca cultrimanus* (White), 1847, may possibly claim priority, on a comparison of figures and descriptions Dana's *nitidus* seems to have the clearest title to recognition. The much older name, *vocans*, used by Milne Edwards cannot be identified with the original species entitled to that name.

Our Durban specimen measures 23 mm. in breadth by 16 mm. in length. The hand of the large claw is 44 mm. long, the fixed finger slightly outreaching the movable one, its cutting edge traversed with granules of which one is prominent at the base, another about midway, and a large triangular lobe preceding the outdrawn apex. "The crests on the inner surface of the palm are extremely prominent," as described by Alcock. The front is exceedingly narrow.

MACRURA GENUINA.

TRIBE CARIDEA.

FAMILY ALPHEIDÆ.

GENUS ATHANAS, Leach.

1814. *Athanas*, Leach, Edinb. Encycl., vol. vii, p. 432.
1817. *A.*, Leach, Malac. Podophth. Britannicæ, text to pl. 44.
1894. *A.*, Ortmann, Jenaische Denksch, vol. viii, p. 12 [de Man].
1899. *A.*, Coutière, Ann. Sci. Nat. Zool., vol. ix, pp. 4, 175, 204.

1905. *A.*, Coutière, P. Mald. et Lacc. Arch., vol. ii, pt. 4, p. 356.
 1908. *A.*, Coutière, Bull. Soc. Philom., vol. xi, no. 5, p. 2.
 1910. *A.*, Kemp, Fisheries Ireland, 1908, p. 119.
 1911. *A.*, de Man, Siboga-Exp., Alpheidæ, vol. xxxixa¹, pp. 133, 144, 161, 172 (1915, pls. 1-3).

ATHANAS GRIMALDII, Coutière.

1911. *Athanas grimaldii*, Coutière, Bull. Oceanogr. Monaco, no. 197 [de Man].
 1911. *A. g.*, de Man, Siboga-Exp., vol. xxxixa¹, p. 146.

A specimen obtained in Durban waters by Mr. D. R. Boyce has a carapace 6 mm. long, with pleon twice that length. It belongs to that which de Man distinguishes as the *nitescens*-group, having "legs of the first pair with the carpi and the chelæ directed straight forward, merus short," unlike the *dimorphus*-group, in which the carpi and chelæ directed backward fit in the elongate excavate merus. As, however, is shown by de Man's own species, *A. parvus*, the merus in the first group is not always particularly short. In the Durban specimen it shows a comparative brevity. Here the larger chela of the first pair is on the right, 6 mm. long, the merus half that length, and the movable finger about half the length of the palm. The finger's inner margin is crenulate and fringed with stiff setules opposed to a similar fringe on the fixed finger over the tip of which it gently curves. The left chela is much slighter, with the merus as long as the palm. In the second pair the chela is rather shorter than the first jointlet of the wrist, which equals the third, fourth and fifth combined, the second and third equal one to the other and together to the fifth, the fourth intermediate in length between the third and fifth. The last three peræopods have the microscopic tooth near the point of the finger, discussed in de Man's footnote.

GENUS ALPHEUS, Fabricius, 1798.

See these Annals, vol. ii, p. 122.

ALPHEUS RAPACIDA, de Man.

1908. *Alpheus rapacida*, de Man, Notes Leyden Mus., vol. xxx, p. 105.
 1911. *A. r.*, de Man, Siboga-Exp., Alpheidæ, vol. xxxixa¹, pp. 324, 394 (1915, pl. 20, figs. 91, 91a-f).

The Durban specimen obtained by Mr. D. R. Boyce, which I refer to this species, was unfortunately devoid of the first peræopods. It evidently belongs to de Man's *brevirostris*-group of the genus. The antennæ agree with his description of the species. The third maxillipeds also agree with his account, in which he specially notes that the margins of the terminal joint "are beset with long setæ, those at the tip being one-and-a-half as long as the joint itself." The second peræopods have the five joints of the wrist tallying well with his precise measurements, which I cannot rival, but roughly it may be said that the first two joints are equal and considerably the longest, while the fifth is longer than either the third or fourth. The finger, however, of the third peræopods is not half as long as the preceding joint, in this respect differing much from de Man's account. The fifth peræopod, which he does not describe, is notably more slender than the third. The length of the carapace is 8 mm., and of the pleon about 13 mm.

FAMILY HIPPOLYTIDÆ.

GENUS SPIRONTOCARIS, Bate, 1888.

See Ann. S. Afr. Mus., vol. xv, p. 91; 1915.

SPIRONTOCARIS MAKROGNATHUS, sp. nov. Plate IV.

The specimen belongs to that section of the genus in which the rostrum is both short and narrow, as is the case with *S. washingtonianus*, Rathbun, 1902, *S. profundus*, Rathbun, 1906, and by my own *S. pax*, 1915. In the new species the rostrum scarcely extends beyond the eyes, and appears to be devoid of ventral teeth. A small tooth on the body of the carapace is followed by a pair of teeth nearly at the base of the orbits, then by a median tooth and finally by two minute teeth leading in succession to the acute apex. The specific name, meaning long-jaw, refers to the striking elongation of the third maxilliped, in contrast with its own diminutive exopod and with the small second maxilliped, which was firmly adherent to its base. The exact limits of the joints in this second maxilliped are difficult to discern.

Though the members of the first pair of chelipeds are similar in structure, that on the right hand of the specimen is much the more massive; the fingers are closely contiguous and short in comparison with the palm. As usual the delicate chelipeds of the second pair with the seven-jointed wrist are carefully concealed when not in use, at least to judge by the difficulty of bringing them into view for dissection. The short stout fingers of the ambulatory limbs differ from those of *S. pax* in having no spine behind the unguis. From that species the present differs also much in the stouter flagellum of the first antenna, which is here nearly as long as the peduncle and carries a slender terminal; the other flagellum is twice as long as the peduncle. It should be noticed, however, that there is a slight difference in length between the two members of the first pair of antennæ. On the telson I find only two pairs of dorsal spines, spaced on the lower half. The truncate apex has a smaller spine at each corner and is fringed with long setæ, the series of which is continued up along the sides more than half way. The length of the carapace is nearly 13 mm. the rest of the body measured round the curve to the apex of the telson accounting for another 30 mm.

Locality. Durban waters.

GENUS HIPPOLYSMATA, Stimpson.

1860. *Hippolysmata*, Stimpson, Pr. Ac. Philad., vol. xii, p. 95 (26).
1914. *H.*, Kemp, Rec. Ind. Mus., vol. x, pt. 2, no. 4, p. 112.
1916. *H.*, Kemp, Rec. Ind. Mus., vol. xii, pt. 8, no. 7, pp. 385, 401.
1919. *H.*, Stebbing, Ann. Durban Mus., vol. ii, pt. 3, p. 119, pl. 18.

In Mr. Kemp's papers useful references will be found to other writers on this genus and its allies.

HIPPOLYSMATA DURBANENSIS, sp. nov. Plate V.

This little species shares with several others longitudinal stripes of red, the lines being constituted by numerous little dots of colour. The specimens were obtained by Mr. H. W. Bell Marley along with many other species cast up on the beach in Durban Bay. The individual figured is a female, which was loaded with small round white eggs. The species of the genus to which it shows rather close affinity are Spence Bate's *Nauticaris unirecedens* (which Kemp agrees with de Man in making a synonym of *Hippolysmata vittatus*, Stimpson),

and *H. dentatus*, Kemp. From the latter it is decisively separated by the fact that the fingers of the last three peraeopods are not simple. These fingers seem also to exclude *H. vittatus*, for in that species Kemp says "On the last three legs there are five or six dactylar spines which increase in size as they approach the apex (fig 8)." His figure shows five teeth including the apex which reaches beyond the large fourth spine. In our species there are only three to four "dactylar spines" and the apex is very slight, not reaching beyond the preceding strong jointed spine.

The specimen figured was the largest available, being about an inch in length, giving 9 mm. for the carapace and rostrum, and 16 mm. for the pleon. The rostrum is slender, tapering, with six teeth above and five of smaller dimensions below. At some distance to the rear is a tooth on the carapace, such as suggested the specific name in Bate's *unirecedens*. A rather smaller specimen, with carapace and rostrum 8.5 mm., and pleon 14 mm. long, has the apical part of the rostrum upturned, eight teeth above and six below, with the receding tooth on the carapace less remote than in the other specimen. This last detail applies to a third specimen, in which, however, the rostrum is quite straight and has nine teeth on its upper margin.

The telson tapers to a blunt end from which a very small median tooth or spine obtrudes, flanked by a single pair of divergent spines, beneath which are planted five long plumose setæ contrasting with the seeming simplicity of the long setæ fringing the telson's sides.

In the second antennæ the distal tooth is almost level with the distal border. The mandibles and other mouth-organs do not seem to differ materially from those of *Exhippolysmata*.

The fingers of the short and comparatively stout first peraeopods close together completely or with a very narrow gap, and the wrist is longer than the palm, instead of shorter as in *H. marleyi*, described in these Annals in March, 1919. The wrist of the second peraeopods is composed of about twenty-one jointlets of which that nearest the hand is the longest, the total being rather longer than the third and fourth joints combined. The third joint is rather longer than the fourth and in both subdivision, if present, is very obscure. The third peraeopod is much stouter and somewhat longer than the second, having a fourth joint subequal to the second's third and fourth combined. Its much shorter fifth joint is distinguished by a protruding apex. The short finger is as long as the hand of the second peraeopod. Its inner margin carries three spines, of which the first is very small, but the

third large, exceeding the finger's slender apex. The fourth and fifth peræopods resemble the third in all essential characters.

In the account of *H. marleyi* I overlooked its agreement with *H. kükenthalii* (de Man) in having no spine or denticle at the antero-lateral angle of the carapace, and in the "fingers of the first peræopods, when closed, meeting throughout their length" (Kemp), but it differs by the relative shortness of the wrist in the first peræopods, the spinulation of the last three peræopods, and the absence of the two pairs of apical spines from the telson.

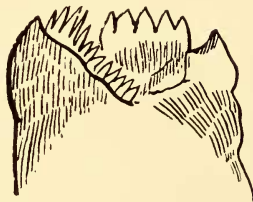
GENUS ALOPE, White, 1847.

ALOPE AUSTRALIS, Baker. (Text-fig. 5).

For the genus and species see these Annals, vol. ii, pt. 3, p. 121, pl. xix, 1919.

Mr. Kemp (Rec. Ind. Mus., vol. x, pp. 83, 89; 1914), notes that in this species "the incisor process of the mandible is obsolete," whereas in *A. palpalis*, White, the type species, this process is present, though considerably reduced. A specimen from Durban, obtained by Mr. Boyce, has enabled me in the text-figure to show some details of the

TEXT-FIG. 5.



ALOPE AUSTRALIS, Baker.
Apex of mandible.

mandible of *A. australis*. In these the quinquedentate plate seems to represent an incisor process, though its position makes it part of the molar. The specimen was 28 mm. long, of which the carapace accounted for 10 mm.

In *Acanthephyra brachytelsonis*, Bate, I have shown how the broad dentate incisor process is actually attached to the molar. See Ann. S. Afr. Mus., vol. xv, p. 97, 1915, and vol. xvii, pl. 94.

ISOPODA.

FAMILY CYMOTHOIDÆ.

GENUS NEROCILA, Leach, 1818.

See S. Afr. Crust., pt. 2, p. 55, 1902 (Gilchrist's Marine Investigations).

NEROCILA ARMATUS, Dana.

1853. *Nerocila armata*, Dana, U.S. Expl. Exp., vol. xiii, p. 761, pl. 50, figs. 10a-d.
1881. *N. cephalotes*, Schiödte & Meinert, Nat. Tidsschr., ser. 3, vol. xiii, pp. 9, 60, pl. 4 (11), figs. 16-18.
1902. *N. c.*, Stebbing, S. African Crust., pt. 2, p. 55.
1910. *N. c.*, Stebbing, Ann. S.A. Mus., vol. vi, pt. 4, p. 423.

A female specimen, taken on the beach by Mr. H. W. Bell Marley, measures 23 mm. in length. It corresponds well with *N. cephalotes*, the species to which I formerly assigned a similar specimen sent me by Dr. Gilchrist. But while I formerly took for granted the validity of the name given by Schiödte & Meinert, on this occasion I consulted Dana's much earlier treatise, and was interested to discover how the Danish authors discriminated their species from Dana's. The search, however, proved fruitless, as they do not include the American author's species among the twenty-seven which they so elaborately describe and figure. They must have overlooked it in describing *N. cephalotes* as a novelty, an error in which I have followed them, but now believe myself justified in offering the present correction.

EXPLANATION OF PLATES I-V,

Illustrating paper by the Rev. T. R. R. Stebbing on
"Some Crustacea of Natal."

PLATE I.

Xantho impressus (Lamarck).

- n.s. Rough figure showing natural size of the carapace.
car. Part of the corapace much enlarged.
Pl., prp. 1, prp. 3. Pleon, cheliped, and second ambulatory limb, uniform
 with carapace.
m., mxp. 1, 2, 3, plp. More highly magnified; mandible, first and second
 maxillipeds (imperfect), third maxilliped and a pleopod.

PLATE II.

Euryplax bevisi, sp. nov.

- n.s. Lines indicating actual size of the carapace partially figured
 uniformly with the other figures, except mx. 1, mx. 2, mxp.
 2, which are more enlarged.
Pl., a.s. Pleon and first antenna.
m., mx. 1, mx. 2, mxp. 2, mxp. 3. Mandible, first and second maxillæ,
 second and third maxillipeds.
prp. 1, prp. 1. The figure on the right shows the fingers of the right hand
 cheliped, that on the left represents the left hand cheliped.

PLATE III.

Parasesarma catenatus (Ortmann).

n.s. Lines indicating actual size of carapace partially figured above.

car., Pl. Part of carapace and dorsal view of pleon. All figures from a male specimen.

prps. 1, 1, 2, 3, 5. The lowest figure is from the upper-side of the left cheliped; the upper figures of prp. 1 show two aspects of the fingers of the right cheliped; prp. 2 shows the cushioned side of the first ambulatory limb; prp. 3 the uncushioned side of the second ambulatory limb; prp. 5, the fourth ambulatory limb, which is not cushioned.

N. B.—The hand of the left figure is distorted to show crests on the palm.

PLATE IV.

Spirontocaris makrognathus, sp. nov.

n.s. Lines indicating natural size of the specimen.

o.c. Eye and part of carapace, uniform in scale with the next series.

a.s., mxp. 2, mxp. 3, prps. 1, 1, 2, 4. First antenna; mxp. 3 (with upper figure of mxp. 2 to show the contrast in size), the two chelipeds, that on the left of the plate being the right hand member of the specimen; the second peræopod; and part of the fourth.

The following parts are more highly magnified:

r., T., m., mx. 2, mxp. 2, 4f. Rostrum, telson, mandible, second maxilla, second maxilliped, and finger of fourth peræopod.

PLATE V.

Hippolysmata durbanensis, sp. nov.

- n.s. Lines indicating natural size of female specimen, of which the carapace is figured below with eye and parts of the antennæ.
- T. Dorsal view of telson with further enlargement of the apex.
- a.i. Scale of second antenna.
- mx. 1, mx. 2, mxp. 2. First and second maxillæ and second maxilliped to uniform magnification.
- prps. 1, 2, 3. First, second, and third peræopods, less magnified than the mouth-organs.

